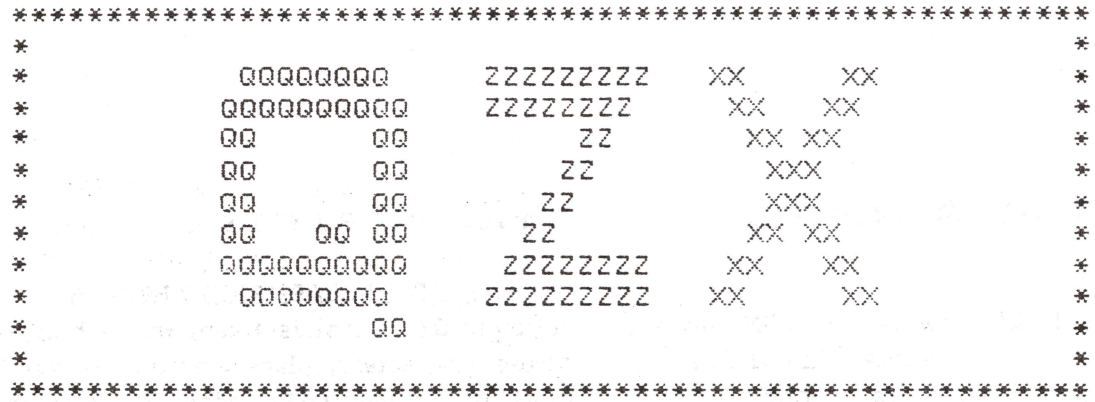

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EDITOR'S NOTES

K5XY

Well QZX now has an ISSN number. An ISSN number is an International Standard Serial Number which is a unique number assigned by the National Serials Data Program of the Library of Congress. It is a number which identifies serials, or publications which are issued at regular intervals. From a practical standpoint it really signifies nothing, but it does mean that QZX is listed in a rather large international data base.

This issue has six pages because of the postal increase. The savings in printing costs almost exactly balances the increase in postage (except for those issues sent to foreign countries).

When you read this issue, I will be in Belize. It will be a rather quick trip. I will be back in New Mexico next week. Unfortunately I will not have any time for amateur radio and I do not expect to see a computer. But I will look.

QZX FRIENDS

KA2HSU -- Rog renewed and said that, although he has three other computers, he still enjoys working with his Sinclair.

W4AT -- Chuck wrote from Florida that he uses his TS1000 for tutorial work on simple computers. He said that he really liked the series of articles by Don Leman and suggested that we republish some of the older articles for the benefit of new readers.

UNCLASSIFIED ADS

WANTED: UNCLASSIFIED ADS for publication in QZX. Cost is 1 cent for each keystroke (characters, blanks, etc.). Payment must be included with order. This is an excellent way to sell your program or unwanted equipment, ask for help, or find a specific program. Send your ad with payment to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

WANTED: VOTEM analog interface for Timex/Sinclair of schematic. Edward L. Radtke, 1602 Woodluck Ave., Louisville, Kentucky, 40205, 502-458-7324.

QZX Discount: 15% discount on all orders mentioning QZX. T & C Services (address in ad in this issue).

WANTED: Any information or user Manual for a Phillips Minicom 1001 word processor. Edward L. Radtke, 1602 Woodluck Ave., Louisville, Kentucky, 40205, 502-458-7324.

BITS AND BYTES

168 If you plan to use UDG's in a long BASIC program that will include a video mode change enter CLEAR 63255 first. A bug in the system will allow a long BASIC program to overwrite your UDG's if RAMTOP is not lowered first.

169 On the TS2068, to give a contrasting base color use

INK OR PAPER 9

TS2068 ROM BUGS

6.4.2 RAMTOP - When the machine stack and OS RAM code is moved to Chunk 7, the User Defined Graphics area is moved down in RAM by 2112 bytes (840H) to make room for the stack and OS RAM routines at the top of memory. The pointer in UDG is updated, however, the value in RAMTOP is not modified to insure that the relocated UDG area as well as the OS code and stack are protected from expansion of the BASIC program. You can avoid problems by setting RAMTOP via a CLEAR command specifying an address no greater than 63255 (F717H) prior to invoking the Video Mode Change Service. This reserves space between RAMTOP and the end of memory of 2280 bytes (8E8H) utilized as:

168 bytes	(A8H)	User Defined Graphics (21 X 8)
2112 bytes	(840H)	Machine Stack and OS Routines
2280	(8E8H)	

Example:

RAMTOP =	63255	(F717H)
+ Reserved Area	2280	(08E8H)
	65535	(FFFFH)

The software packages in Appendix C are written assuming that RAMTOP is set to 57343 (DFFFH) or lower to protect the machine code which is loaded beginning at 57344 (E000H).

6.4.3 NEW Command - If you have used the Video Mode Change Service to open the second display file and now wish to execute the NEW command, you should first return the computer to "normal" mode by calling the video mode service with A=zero. This returns the User Defined Graphics and other RAM structures to their normal locations. If you don't do this, the UDG area will remain in the alternate location and, if you have not corrected RAMTOP as explained above, part or all of your UDG area could be cleared to zeros by the NEW command.

6.4.4 VIDMOD - When Mode 128 (80H) is designated for activating the Primary Display File in Dual Screen Mode the System Variable VIDMOD at 23746 (5CC2H) is set to zero instead of to 128. This creates a potential problem if the 17 ms. interruption occurs before VIDMOD can be corrected since the interruption fielder will branch to Chunk 3 instead of to Chunk 7 and Chunk 3 is now in use for the second display file. This problem is corrected by disabling the interruption prior to calling the Video Mode Change Service and setting VIDMOD to the correct value prior to re-enabling it.

NOTE: On an initial access changing video mode from normal to Mode 128, the interruption is re-enabled within the Video Mode Change Service itself after copying the stack and other Chunk 3 data to Chunk 7. This cannot be corrected, but has not proven to present a problem in actual use. At the point where the interruption is first enabled, the Chunk 3 code is still intact allowing for correct processing of one interruption, and the path length from there to the point of correcting VIDMOD is apparently less than 17 ms. The interruption is also re-enabled within the Video Mode Change Service if you have applied the patches for the BANK_ENABLE and RESTORE_STATUS routines (Section 6.5.4) which are executed in connection with inserting space into the RAM to open the second display file. Again, this has not proven to be a problem in actual use.

6.4.4 Interruption Inhibit - By setting Bit 6 of Port OFFH to a 1, the normal 17 ms. interruption generated from the SCLD to the Z80A CPU will be inhibited. When Port OFFH is written to by the Video Mode Change Service, Bit 6 is forced to zero. If you wish to inhibit the normal interruption via this mechanism, and also plan to use the Video Mode Change Service, it is recommended that you first invoke the service to remap the RAM and open the second display file, then set Bit 6 of Port OFFH to inhibit the normal interruption and write your own routine(s) for subsequent changing of the video mode setting that do not involve remapping the RAM. In this way you can maintain the value in Bit 6.

6.5 OS RAM Routines

In patching the OS RAM routines, care must be taken not to relocate CALL and JP instructions since this affects the modification of the code when it is moved between Chunks 3 and 7. All of the code containing actual addresses must be modified to reflect the relocation and this is done using a table in the Extension ROM. Since the table cannot be changed, none of these instructions can be moved. Also, any CALL or JP instructions added must be modified by you when the code is relocated.

6.5.1 Function Dispatcher -For a variety of reasons such as conflict with use of the IX Register, incorrect entries in the ROM Function Dispatcher Jump Table, etc. some Service Codes have been deleted from the Function Dispatcher table (Table 3.3.4-2). In addition, the following correction to the GET_STATUS routine is required in order to successfully utilize the Function Dispatcher from a cartridge.

SINCLAIR PUZZLE

K5XY

Here is a standard wordsearch puzzle which you might find interesting. The words given in the following wordlist are hidden in the letter square below. The words appear horizontally, vertically, or diagonally. They can even appear backwards. I hope that you enjoy it. The solution will appear next month.

AMATEUR RADIO
BANDPASS FILTER
BASIC
BUGS
BUS
COLOR
FREQUENCY
KEYSTROKE
MEMORY
PACKET
POSTAGE RATE
QL
QZX
RAMTOP
ROM
SINCLAIR
STACK
SYSTEM
VARIABLE
VIDEO

F T T E K C A P W T Z S K B
F E T F C G Q S S F O V A X
R G T T R J G U A N K N T C
O A M A T E U R R A D I O K
L H M M O R L Q I K P E H O B
O E D T R E A U A Z B M D M
C K L O O L G S E C V E N G
I O G B C P S A B N I T G L
B R K N A F U C T U C S J J
S T I V I I B L L S G Y A V
O S G L C U R F T W O S U B
L Y T K F G X A Y N Y P A X
M E M O R Y C Z V I D E O B
R K L O H K D B Q K V K R O

73, K5XY

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